CLAIMS

1. A fuel return device for an internal combustion engine for recovering surplus fuel supplied to the internal combustion engine simultaneously from a plurality of fuel tanks, and returning the recovered fuel to the respective fuel tanks; comprising:

residual amount detecting means for detecting a residual amount of fuel in the respective fuel tanks; and

fuel return distribution adjusting means for adjusting a distribution of the fuel returning to the respective fuel tanks, in accordance with values detected by the residual amount detecting means, in such a manner that the residual amounts of fuel inside each of the fuel tanks are approximately equal.

2. The fuel return device for the internal combustion engine according to claim 1, wherein the fuel return distribution adjusting means comprises: a flow rate control valve for adjusting the distribution of the flow rate of the fuel returning to the respective fuel tanks; and control means for controlling the flow rate control valve in accordance with the values detected by the residual amount detecting means.

3. The fuel return device for the internal combustion engine according to claim 1, wherein two fuel tanks are provided, and a first return passage for recovering surplus fuel, and two second return passages branching respectively from a downstream end of the first return passage and connecting respectively to the two fuel tanks, are provided; and

the fuel return distribution adjusting means comprises: a flow rate control valve interposed in one of the second return passages; control means for controlling the flow rate control valve in accordance with the values detected by the residual amount detecting means; and flow rate restricting means interposed in the other of the second return passages.

4. The fuel return device for the internal combustion engine according to any one of claims 1 to 3, wherein the internal combustion engine comprises a common rail for accumulating pressurized fuel that is to be injected; each of the fuel tanks respectively comprises a fuel pressure feed pump; and at least one pressure adjusting pump capable of adjusting the output pressure is interposed between the fuel pressure feed pumps and the common rail; and

the fuel discharged from the common rail and the fuel discharged from the pressure adjusting pump are returned to the fuel tanks.

5. The fuel return device for the internal combustion engine according to any one of claims 1 to 4, wherein the fuel has a property of assuming a gaseous form at normal temperature and atmospheric pressure, and assuming a liquid form when pressurized to a pressure above atmospheric pressure when being used.

6. The fuel return device for the internal combustion engine according to any one of claims 1 to 5, wherein the fuel is dimethyl ether.